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Bibliography

(19) [Country of Issue] Japan Patent Office (JP)

(12) [Official Gazette Type] Open patent official report (A)

(11) [Publication No.] JP,7-8611,A

(43) [Date of Publication] January 13, Heisei 7 (1995)

(54) [Title of the Invention] Pachinko machine

(51) [International Patent Classification (6th Edition)]

A63F 7/02 316 A

305 A

320

332 B

[Request for Examination] Un-asking.

[The number of claims] 3

[Mode of Application] FD

[Number of Pages] 6

(21) [Filing Number] Japanese Patent Application No. 5-174842

(22) [Filing Date] June 21, Heisei 5 (1993)

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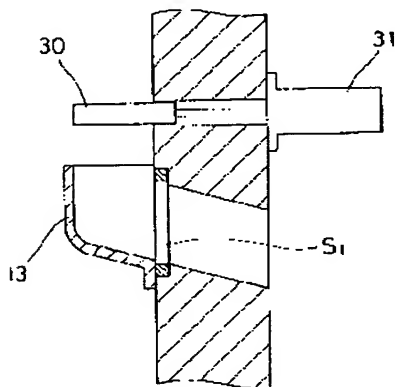
Summary

(57) [Abstract]

[Objects of the Invention] In the pachinko machine equipped with the pattern drop, the operation which was rich in change with opening-and-closing control of the starting mouth which drives this pattern drop is realized.

[Elements of the Invention] The piece 30 of cover is arranged on the starting mouth 13 which drives the pattern display 6 according to the inflow of a ball, it is necessary to hammer out a ball with the shell which opened and closed this piece 30 of cover continuously by the drive of a driving gear 31, and sufficient timing, and operation of the ball on the play board which was rich in change is attained.

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CLAIMS

[Claim(s)]

[Claim 1] If a game sphere passes the starting mouth which was constituted by the pattern drop which indicates the various patterns defined beforehand by change, and was equipped with the pilot switch In what the indicator-chart handle of each pattern drop started change, and was equipped with the pattern display which stops and displays the pattern of various combination based on the sphere detection signal from a pilot switch The pachinko machine characterized by carrying out drive control of the driving gear by the piece of cover which enables conversion of the aforementioned starting mouth in open position and a closing position with a driving gear so that this piece of cover may be continuously opened and closed with a wrap.

[Claim 2] If a game sphere passes the starting mouth which was constituted by the pattern drop which indicates the various patterns defined beforehand by change, and was equipped with the pilot switch In what the indicator-chart handle of each pattern drop started change, and was equipped with the pattern display which stops and displays the pattern of various combination based on the sphere detection signal from a pilot switch The pachinko machine characterized by carrying out drive control of the driving gear so that the piece of cover may be continuously opened and closed by the ordinary state and open maintenance may be carried out by sufficiency of predetermined conditions with a wrap by the piece of cover which enables conversion of the aforementioned starting mouth in open position and a closing position with a driving gear.

[Claim 3] If a game sphere passes the starting mouth which was constituted by the pattern drop which indicates the various patterns defined beforehand by change, and was equipped with the pilot switch In what the indicator-chart handle of each pattern drop started change, and was equipped with the pattern display which stops and displays the pattern of various combination based on the sphere detection signal from a pilot switch The pachinko machine characterized by carrying out drive control of the driving gear so that the piece of cover may be continuously opened and closed by the ordinary state and closing maintenance may be carried out by sufficiency of predetermined conditions with a wrap by the piece of cover which enables conversion of the aforementioned starting mouth in open position and a closing position with a driving gear.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] this invention relates to the pachinko machine equipped with the pattern display which produces a profits **** operation with predetermined combination.

[0002]

[Description of the Prior Art] If a game sphere flows into the starting mouth which was constituted by the pattern drop which indicates the various patterns defined beforehand by change, and was equipped with the pilot switch Based on the sphere detection signal from a pilot switch, each pattern drop starts pattern change, and various things equipped with the pattern display which stops and displays the pattern of various combination, and the special winning-a-prize mouth which carries out an open operation when each halt pattern of a pattern drop is predetermined combination are proposed.

[0003]

[Problem(s) to be Solved by the Invention] this invention aims at realizing the operation which was rich in the hitted ball on the play board, and change of each equipment by opening-and-closing control of the starting mouth equipped with the pilot switch in the pachinko machine equipped with above-mentioned pattern display.

[0004]

[Means for Solving the Problem] this invention is characterized by carrying out drive control of the driving gear by the piece of cover which enables conversion of a starting mouth in open position and a synzesis position with a driving gear, so that this piece of cover may be continuously opened and closed with a wrap. It is in this composition, and the piece of cover is continuously opened and closed by the ordinary state, and you may be made to carry out drive control of the driving gear so that open maintenance may be carried out by sufficiency of predetermined

conditions. Furthermore, the piece of cover is continuously opened and closed by the ordinary state, and you may be made to carry out drive control of the driving gear so that synizesis maintenance may be carried out by sufficiency of predetermined conditions.

[0005]

[Function] In order that the piece of cover may open and close continuously, in order for a ball to go into a starting mouth, when the piece of cover is in open position, a hitted ball needs to flow, and inflow timing needs to be proper and produces change in an inflow mode. Moreover, it becomes possible [producing big gain after that, or taking the chance of an inflow to a starting mouth for the time being, when open maintenance of the starting mouth is carried out and a pattern drop lengthens the so-called Baba according to the content of a great success display of a pattern drop for example, etc.] to generate the profits or disadvantageous profit connected with this pattern drop.

[0006]

[Example] One example of this invention is explained about an accompanying drawing.

[0007] Drawing 1 is the front view of the pachinko machine 1, and a ball saucer, the rotating type handle for ball discharge, etc. are prepared in the lower part which the frame 2 does not illustrate. The pin center, large case 4 fixed to the anterior part of a wearing case (not shown) as drawing 2 expands and showed is arranged in the center of the face of a board of the game board 3. Three drops A, B, and C which constitute the pattern display 6 are installed by the longitudinal direction in this pin center, large case 4. It enables it to check by looking the pattern display which consists of Light Emitting Diodes and liquid crystal displays, such as a dot matrix arranged in the front face of Drops A, B, and C through the bore board from the window hole formed in the center of the pin center, large case 4, or 7 segment indicator.

[0008] Moreover, on the window hole 5 of the pin center, large case 4, the storage number display Light Emitting Diode 11 which consists of four pilot lamps is arranged.

[0009] If the starting mouth 13 equipped with the winning-a-prize switch (refer to drawing 3) constituted by a photoelectric switch, the limit switch, etc. directly under the pin center, large case 4 is formed and the sphere detection signal by this winning-a-prize switch occurs by passage of a game sphere While driving the pattern display 6 and indicating the pattern drops A, B, and C by pattern change, when it passes continuously, the storage number display Light Emitting Diode 11 lights up one by one, and is suspended a maximum of four pieces. Moreover, with this operation, the premium sphere of a predetermined number is offered with passage of a game sphere. The starting gate which passes a ball can also constitute this starting mouth 13 from on the game board.

[0010] On this starting mouth 13, the piece 30 of cover which moves in the shape of a rectangular cross to the game board 3 is arranged, and it is made to cover the

starting mouth 13 in the ***** position. This piece 30 of cover is changed into open position (evacuation position) and a closing position (***** position) by the driving gear 31 which consists of a solenoid shown by drawing 3 .

[0011] Opening-and-closing control of this driving gear 31 is performed by the central control unit MPU shown by drawing 4 .

[0012] Change winning-a-prize equipment 22 equipped with the broad special winning-a-prize mouth is arranged in the lower part of the aforementioned starting mouth 13. If this change winning-a-prize equipment 22 opens a lid 24 wide to a cross direction by the solenoid, and consists of well-known composition of showing specially the winning-a-prize mouth 23 to a game sphere, by guidance operation of this lid 24, the center section of the winning-a-prize mouth 23 is specially carried out as a specific field and a game sphere enters to this specific field, a sphere is detected by V winning-a-prize switch, and the continuation opening operation is made to be generated.

[0013] Pattern change control of a series of above-mentioned pattern display 6 and opening-and-closing control of a driving gear 31 may be easily performed by the control-command means constituted with the microcomputer which consists of a central control unit MPU shown by drawing 4 .

[0014] This central control unit MPU performs control action in a predetermined procedure, and the storage ROM which stores a program of operation, and the storage RAM which can write required data at any time are connected. Fixed data, such as a control program, a random number table, a great success game pattern and a lamp, a display pattern of Light Emitting Diode, and a voice generating pattern from a loudspeaker, are memorized by Storage ROM.

[0015] The detecting signal from the pilot switch S1 of the starting mouth 13, V winning-a-prize switch formed in the specific field, and the count switch of change winning-a-prize equipment 22 specially formed in the winning-a-prize mouth 23 is memorized, or the storage area which memorizes temporarily the data which set the halt display mode of the pattern drops A, B, and C to Storage RAM, the register field which constitutes a soft timer, the work area of a microcomputer, etc. are prepared. Furthermore, the address bus which, on the other hand, tells a target the information which specifies the address which write data to be Storage RAM from a central control unit MPU, and a central control unit MPU, Storage ROM and RAM and the data bus that performs an exchange of data are connected.

[0016] Moreover, dividing of the clock pulse of the voltage detector which sends a reset signal through the OR gate when the power circuit and supply voltage which supply the electrical and electric equipment to MPU shift from an allowable-voltage value to a microcomputer, the oscillator circuit which generates a clock pulse, and an oscillator circuit is carried out, and the counting-down circuit which sends a reset signal is connected to the reset terminal through the OR gate.

[0017] The waveform shaping circuit which prevents a chattering is minded [of a central control unit MPU], and it is the pilot switch S1 of the starting mouth 13. V

winning-a-prize switch, a count switch, etc. which were formed in the specific field 25 are connected, the signal sent out from each switch is shaped in waveform by the waveform shaping circuit, and it is made to tell a central control unit MPU as input data.

[0018] Moreover, the driver line which makes each aforementioned equipment drive in response to output data is connected to the output side of a central control unit MPU, and the solenoid of the pattern drops A, B, and C of the pattern display 6, the driving gear 31 of the piece 30 of cover, and change winning-a-prize equipment 22, the storage number display Light Emitting Diode 11, the side lamp, etc. are connected to this driver line. Furthermore, the sound generator outputted to amplifier in response to sound data is connected to the central control unit MPU.

[0019] It is in the microcomputer of this composition, the output of each control signal is answered according to the program data with which the central control unit MPU was stored in Storage ROM, and a control signal is given to various devices. On the other hand, the signal from the winning-a-prize switch of the starting mouth 13, a count switch, and V winning-a-prize switch is given to a central control unit MPU. Moreover, by the signal output from a central control unit MPU, the solenoid of the pattern display 6, the driving gear 31 of the piece 30 of cover, and change winning-a-prize equipment 22, the storage number display Light Emitting Diode 11, a lamp, etc. will drive with a driver.

[0020] Next, it explains per control mode of the pattern display 6.

[0021] Here, all circulate through "0" to "9", then "A" to "F" one by one, and the pattern drops A, B, and C display this for them as 1 cycle.

[0022] And "1, 1, 1", the pattern drop C carries out a pattern halt. the pattern drops A, B, and C [for example,] When the pattern which consists of a number or the alphabet becomes the same, "2, 2, 2", "3, 3, 3", "A, A, A", etc. While it is "becoming it a great success" and information equipment emits a fanfare, the solenoid of winning-a-prize equipment 22 drives, a lid 24 tilts ahead and the winning-a-prize mouth 23 opens wide specially, and it opens until about ten game spheres win a prize or a predetermined time passes. If it was in this special winning-a-prize mouth 23, when it passes through a specific field, a continuation drive is carried out and the winning-a-prize mouth 23 releases specially again after the open operation end. The number of times of this continuation operation may be a maximum of 16 times including first time opening.

[0023] A hitted ball goes into the starting mouth 13, and this pattern display 6 is a pilot switch S1. An ON operation drives or memorizes [winning-a-prize]. And the inflow of the hitted ball to this starting mouth 13 will be controlled by the piece 30 of cover.

[0024] This piece 30 of cover starts the important section of this invention, and explains the drive control mode.

[0025] By continuous change control of a driving gear 31, the piece 30 of cover carries out an attitude operation continuously, and produces the operation which

changes the starting mouth 13 into an open state and a synthesis state. For example, the piece 30 of cover is the predetermined released time T1. Predetermined closing time T2 It considers as for [thing / which produces the continuous opening-and-closing operation repeated by turns /, then $T1 = T2 = 2$ seconds. Thereby, only when it is in an evacuation position, the inflow of a hitted ball is attained at the aforementioned starting mouth 13, and inflow timing needs to be proper and produces change in an inflow mode.

[0026] Although the composition which carries out an opening-and-closing operation simply and continuously is also proposed, as follows, this piece 30 of cover can be connected with various condition equipments, and can produce various operations. The example of an operation mode is explained below.

[0027] ** While being in an ordinary state and carrying out the attitude operation of the piece 30 of cover continuously, carry out open maintenance of the piece 30 of cover according to the content of a great success operation of the aforementioned pattern display 6. For example, when the indicator-chart handle of each pattern drops A, B, and C of the pattern display 6 is set to "777", the aforementioned piece 30 of cover is maintained in the open state till the next great success. Thereby, according to the content of a display of the pattern drops A, B, and C, the rate of a drive of the pattern display 6 improves, and new gain is produced.

[0028] Furthermore, if a ball passes through the starting gate which usually arranged pattern display on the pattern display 6, and arranged this display on the play board 3, it is in the composition it was made to operate, and when [that] a pattern drop is usually specification, you may maintain a predetermined time and the piece 30 of cover in the open state. This predetermined time can consider opening continuously etc. until it carries out open maintenance, for example for 10 seconds or a pattern (equivalent to Baba) predetermined in pattern display is usually displayed.

[0029] ** When predetermined conditions are satisfied, it is a released time T1. Closing time T2 It receives and may be made to lengthen. For example, it sets as mentioned above to what usually arranged pattern display, and when [that] a pattern drop is usually specification, it is the aforementioned released time T1. You may be made to make it longer than the closing time T2. For example, when it considers as for [$T1 = T2 = 2$ seconds and predetermined conditions are satisfied by the steady state, it is possible to consider for [$T1 = 5$ seconds and as for [$T2 = 2$ seconds. the time of this advantageous opening-and-closing operation — for example, it is possible to open continuously etc. until it maintains for 10 seconds or a pattern (equivalent to Baba) predetermined in pattern display is usually displayed

[0030] ** While being in an ordinary state and carrying out the attitude operation (opening-and-closing operation) of the piece 30 of cover continuously, maintain the piece 30 of cover in the closing state according to the contents of a display of the aforementioned pattern display 6. For example, when "X" is made to mix in each indicator-chart handle of each pattern drops A, B, and C of the pattern display 6 and "X" appears in it at either of the pattern drops A, B, and C, the piece 30 of

predetermined-time cover is maintained in the closing state. The so-called Baba deserves "X" and, thereby, it produces change in a pachinko game.

[0031] It is in each above-mentioned composition, and the inflow ratio to the starting mouth 13 falls as compared with the composition to which it is supposed that opening of the conventional starting mouth 13 has been carried out. However, what is necessary is to form two or more aforementioned starting mouths 13, and to make the either into an open state, in addition just to make it arrange the piece 30 of cover, after securing the same inflow ratio as usual, in order to generate gain by sufficiency of the profits by above-mentioned inflow timing, or predetermined conditions. moreover, the means of raising the probability of great success of the pattern display 6, even if the inflow ratio to the starting mouth 13 falls -- the -- as a whole -- **** -- a certain reward balls can be secured

[0032] Moreover, the aforementioned released time T1 And the closing time T2 Control being possible, then the advantage which can adjust the availability of the pattern display 6 are produced.

[0033] Drawing 5 shows other examples of the aforementioned piece 30 of cover, and forms in the upper surface the maintenance slot 32 which consists of a V groove on which one ball rides. If the piece 30 of cover evacuates in the state of the **** when the piece 30 of cover is in a closing position, a ball is enabled to **** to up to this maintenance slot 32 and Ball x is supported with sufficient balance on the maintenance slot 32, if it is in this composition, the ball on the maintenance slot 32 will become possible [carrying out ** ON into the starting mouth 13].

[0034] Although the play board 3 and the composition of the aforementioned piece 30 of cover cross at right angles and moves, it is rotated in other vertical direction, and the composition changed into the position which opens the aforementioned starting mouth 13, and the position to close may also be applied.

[0035]

[Effect of the Invention] The piece 30 of cover is arranged on the starting mouth 13 which drives the pattern display 6 according to the inflow of a ball, it is necessary to hammer out a ball with the shell which opened and closed this piece 30 of cover continuously by the drive of a driving gear 31, and sufficient timing, operation of the ball on the play board which was rich in change of this invention is attained, and a feeling of a lively motion is further generated by the operation of the piece 30 of cover.

[0035] Moreover, by considering the aforementioned piece 30 of cover as open maintenance or closing maintenance by sufficiency of predetermined conditions, various profits or disadvantageous profit is produced and there is an effect which was [improve / the interest of a pachinko game] excellent.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is the front view showing the principal part of the pachinko machine 1 of this invention.

[Drawing 2] They are the pattern display 6 of this invention, and the expansion front view of the starting mouth 13.

[Drawing 3] It is the A-A line cross section of drawing 2 .

[Drawing 4] It is the block circuit diagram showing a microcomputer.

[Drawing 5] They are the starting mouth 13 of other composition, and the front view of the piece 30 of cover.

[Description of Notations]

- 1 Pachinko Machine
- 6 Pattern Display
- A, B, C Pattern drop
- 13 Starting Mouth
- 30 Piece of Cover
- 31 Driving Gear
- 32 Retention Groove

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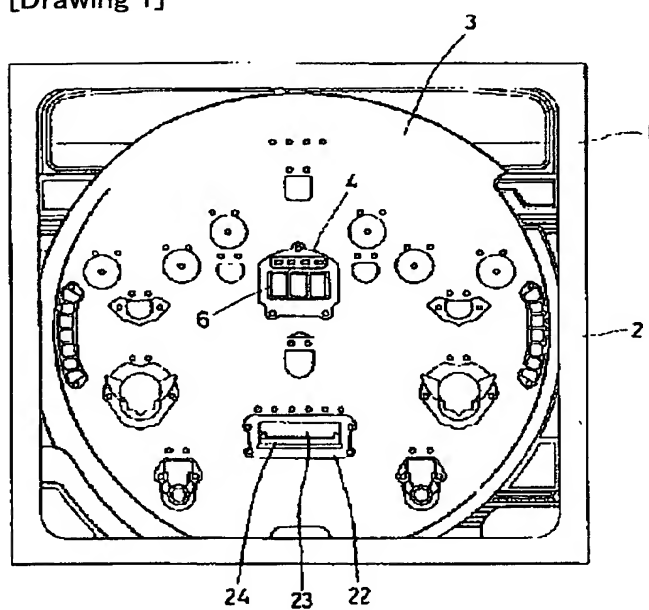
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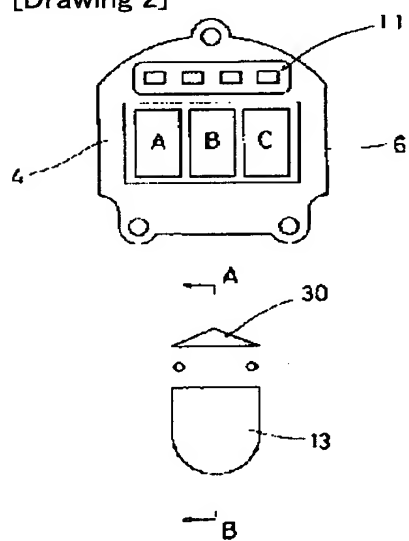
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DRAWINGS

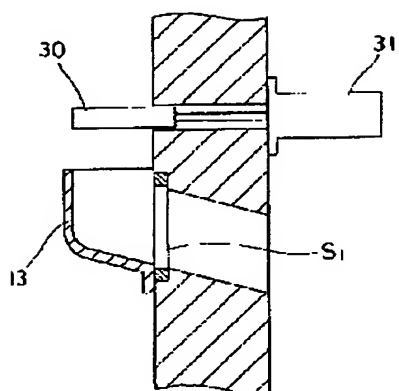
[Drawing 1]



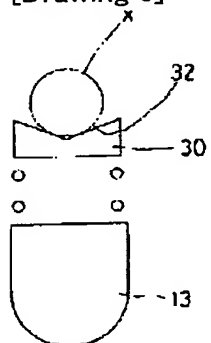
[Drawing 2]



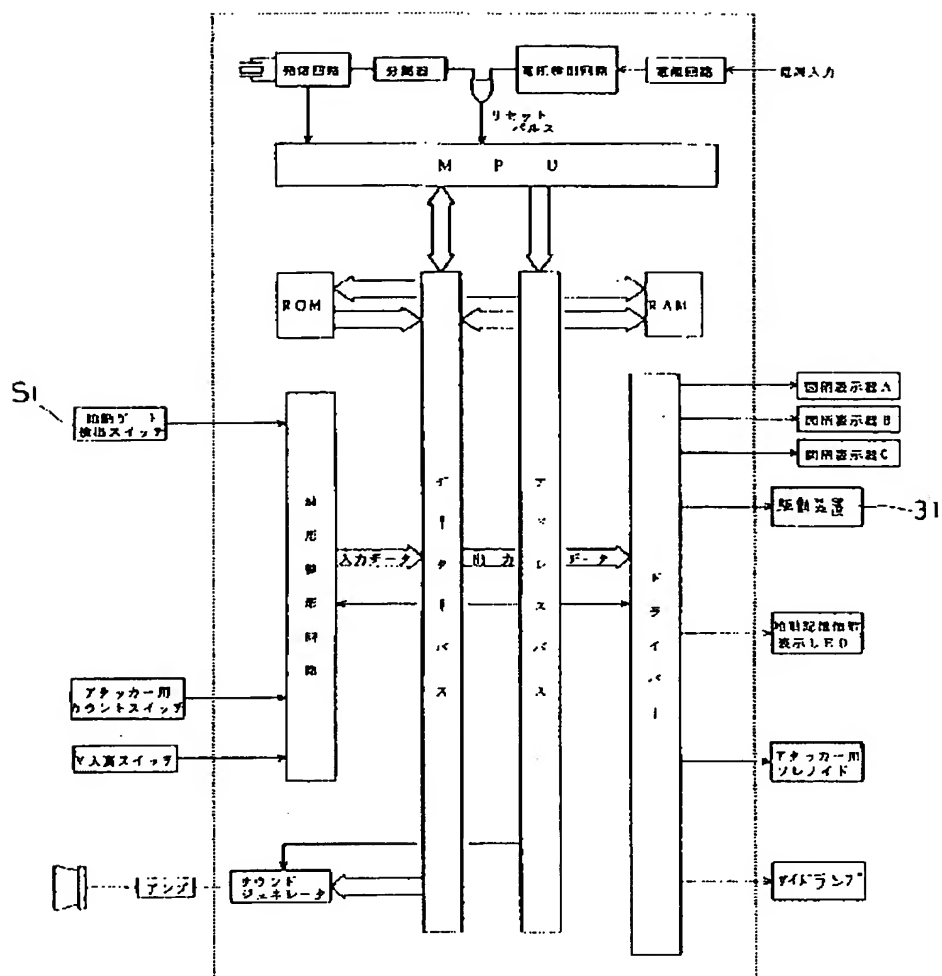
[Drawing 3]



[Drawing 5]



[Drawing 4]



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